

2 under one of the guides 12. That is, connectors 20 are led out of the main body 2 through the slit 18, then electronically coupled to the LCD device 8. The connectors 20 move along the slit 18 when the LCD device 8 is inserted into and withdrawn from the guides 12.

As shown in FIGS. 3 and 4, the LCD device 8 comprises a liquid crystal cell 24, a circuit board 25 coupled to the liquid crystal cell 24 and a driver 26 coupled to the circuit board 25 via a tab integrated circuit 28.

Describing more in detail, the liquid crystal cell 24 is coupled to the circuit board 25 via a flexible printed circuit (FPC) 30 for data communication there between. Thus, even when the LCD device 8 is folded or bent, reliable data communication is still possible without the risk of loss to data.

The LCD device 8 is designed such that a flexible portion 32 formed on a middle portion thereof can be bent over the rounded front side of the main body 2. A reinforcement plate 34 is disposed on an outer surface of the liquid crystal cell 24, then at least two strip-shaped recesses 36 are formed on the reinforcement plate 34 by removing portions of the reinforcement plate 34. Accordingly, the reinforcement plate 34 serves to maintain a shape of the LCD device 8 when it is unfolded, and the at least two recesses 36 allow the LCD device 8 to be bent over the rounded front side of the main body 2.

A flexible film 38 may attach on the reinforcement plate 34 so that the LCD device 8 can be smoothly bent and returned to its flat state.

As described above, since the LCD device 8 is designed to be bendable without the use of a joint, display quality is not reduced.

Preferably, the flexible portion 32 may be formed on more than one portion of the LCD device 8.

FIGS. 5a to 5d show operating modes of the flexible LCD device coupled to the portable computer.

First FIG. 5a shows the LCD device 8 whose frames are slidably inserted into the guides 12. In this case, since the keyboard is covered by the LCD device 8, data may be inputted through the optional touch panel 6.

When the user desires to use the keyboard 4, as shown in FIG. 5b, the LCD device 8 is simply slide out from the guides 12. That is, when pulling the LCD device 8, the pivot shaft 14 moves along the guide slot 10 to remove the frames 16 out of the guides 12, thereby exposing the keyboard 4.

To fold or bend the LCD device 8 over the main body 2 for carrying or storage, as shown in FIG. 5c, it is pivoted about pivot axis such that the frames 16 come into contact with the upper surface of the guides 12. Then, the LCD device 8 is folded around the rounded front side of the main body 2 so that the flexible portion 32 is bent with the same roundness of the rounded front side of the main body 2, as shown in FIG. 5d.

Other embodiments of the invention will be apparent to the skilled in the art from consideration of the specification and practice of the invention disclosed herein. It is intended that the specification and examples be considered as exemplary only, with the true scope and spirit of the invention being indicated by the following claims.

What is claimed is:

1. An LCD device flexible in at least one portion, comprising:

a liquid crystal cell;
a reinforcement plate disposed on the liquid crystal cell; and
at least two strip-shaped recesses in the reinforcement plate in said at least one portion of the LCD at which the LCD can be bent.

2. The LCD device according to claim 1 further comprising a flexible film attached on the reinforcement plate.

3. The LCD device according to claim 1 further comprising a circuit board coupled to the liquid crystal cell, and a driver coupled to the circuit board via a tab integrated circuit.

4. The LCD device according to claim 3 further comprising a flexible printed circuit for connecting the liquid crystal cell to the circuit board.

5. An electronic apparatus comprising:

an LCD device with a liquid crystal cell having at least one flexible portion;
a body portion having front, rear, right and left sides as well as upper and bottom surfaces; and
a coupling member for coupling the LCD device to the body portion,

wherein the surface area of the LCD device is greater than the area of the upper surface of the body portion and the LCD device is bendable in said at least one flexible portion around the front side so as to cover the bottom surface of the body portion.

6. The electronic apparatus according to claim 5 wherein the front side of the body portion is round.

7. The electronic apparatus according to claim 5 wherein the coupling member comprises guides formed along the right and left peripheries of the front surface of the body portion and the right and left ends of the LCD device are slidably inserted into and withdrawn from the guides, which further comprise a pivot hole, formed on the rear ends of each of the guides, into which pivot shafts protruding from the LCD device are inserted and a guide slot, extending from the pivot hole, such that the pivot shafts can slide inside the slots for the insertion and withdrawal of the right and left ends of the LCD into the guides.

8. The electronic apparatus according to claim 7 wherein the LCD device comprises:

a liquid crystal cell;
a reinforcement plate disposed on the liquid crystal cell; and
at least two strip-shaped recesses formed by removing portions of the reinforcement plate in said at least one flexible portion.

9. The LCD device of claim 8 further comprising a flexible film attached on the reinforcement plate.

10. The LCD device of claim 8 further comprising a circuit board coupled to the liquid crystal cell, and a driver coupled to the circuit board via a tab integrated circuit.

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